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ABSTRACT

The influence of locus of control (LC) and American College Testing (ACT) scores in predicting grade point average (GPA) was investigated with college freshmen at a predominantly and historically black campus in Mississippi. A total of 322 freshmen were administered the Rotter Locus of Control Inventory during the first month of school. The ACT scores and composite GPA were obtained at the end of the academic year. LC was not significantly related to GPA, while ACT scores were. It is suggested that future research should test for changes over time (i.e., between the freshman and sophomore years). In addition, testing of black college students on predominantly white campuses who attended integrated elementary and secondary schools in the South is suggested for future studies.
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LOCUS OF CONTROL AND THE ACT AS
PREDICTORS OF SUCCESS FOR BLACK
COLLEGE STUDENTS

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Introduction

In 1966 Coleman reported that the strongest achievement predictor among school factors, such as teachers, salary, and facilities, was the student's belief that he was in control of his destiny.

A term to describe this construct is Locus of Control (LC), defined by Rotter (1966) as the generalized expectancy individuals have concerning the extent to which they themselves play a causative role in specified life events. Internally oriented persons tend to believe that a given outcome (success or failure) depends on their behavior, skills, and resources; externals believe that control resides outside themselves in the form of chance or powerful others.

The first inkling that LC was a powerful determiner of achievement activity was Crandall's (1962) study that found boys' LC ratings were more powerful predictors of achievement than n-achievement, anxiety, etc., but was unrelated for girls.

A replication study by Chance (1965) found significant relationships for both sexes. Lefcourt (1976), in reviewing the above studies with LC and achievement, noted several other studies demonstrating associations; Franklin (1963) found internality related to the amount of time high school students spend doing homework; James (1965) reported that internals were more persistent in

their attempts to solve complex logical puzzles; Lessing (1969) found LC of 8th and 11th grade Chicago students related to GPA even after IQ was partialled out; and Harrison (1968) found LC predicted GPA regardless of social class. Lefcourt stated IQ and social class have a reliable and robust relationship with achievement criteria. Furthermore, when LC can add to the already high magnitude of relationships between socioeconomic class, IQ and achievement attests to the value of LC in predicting achievement. Lefcourt mentions several other students (Katz 1967, Nowicki and Roundtree 1971, Stephens 1972) that reveal relationships between various measures of LC and achievement behaviors.

Lefcourt continued his review of the literature with Messer (1972) who found support for the simple generality that internal LC is associated with higher grades and achievement test scores, even when IQ and cognitive impulsivity are controlled. Messer also found sex differences. Boys who assumed responsibility for success and girls who assumed responsibility for failure were the most likely to have obtained higher grades and achievement test scores. Nowicki (1973) found that externality was associated with achievement for females as defined by GPA while internality was related to the achievement for males. Nowicki subsequently replicated these data in two other samples of college students.

Lefcourt summarized this research by concluding that the verbal expression of perceived causality has different meaning for males and females.

In a five year outcome study, Otten (1977) found LC positively correlated with academic achievement. In a study of epileptic children, Matthews (1983) found that these children attributed success or failure to unknown sources of control and held less positive feelings about school and their own self-worth. While a spate of studies have focused on changing the LC, a recent study of Pinkard and Gross (1984) is a clear-cut demonstration that LC can be altered provided the appropriate types of instruction are employed.

The comparative literature reviewed did not cover studies with large numbers of black college students and their LC and achievement relationships. Rotter (1966) does provide sample data on the LC scale. Black students in Florida State University Psychology classes had a mean LC score of 9.05 ($N = 116$). A sample of 158 black college students who were active ($N = 53$) in civil rights had mean LC of 7.49, while 105 inactives had a mean LC of 9.64. A sample of 118 black students at a Southern College which was predominately black, and who were involved in protest movements had LC means ranging from 7.4, those willing to join a silent march, to 10.3 for those willing to attend a civil rights rally. It does

appear from the literature that lower socioeconomic class blacks score more external than middle class blacks or upper or lower class whites.

The dearth of research on LC involving blacks is evident and the findings are inconclusive at best. Findings suggest that LC may be another significant predictor of success in college by blacks and should be thoroughly researched along with academic variables such as ACT scores which have shown to be significant predictors of achievement in the past (Funches 1965; Wen 1975).

Purpose of Study

The purpose of this study was to test the influence of Locus of Control (LC) and ACT scores in predicting Grade Point Averages (GPA) for college freshmen on a predominately and historically black campus.

Research Questions

1. What relationship exists between the ACT Composite of area scores and LC and GPA of black college students (freshmen) in the south?
2. What effect, if any, will the addition of LC have on the prediction model utilizing ACT Composite and area scores to predict GPA of black college students (freshmen)?

3. How did LC of a group of black college students of today compare with similar groups studied in 1960's?

Method

A sample of 322 freshmen (142 males and 180 females) students at a historically black state university in Mississippi were chosen for this study. The students were selected via random sampling techniques for freshmen students enrolled in a required orientation class.

All subjects were administered the Rotter (1966) Locus of Control inventory within a one week period in the first month of school by the instructor assigned to teach the course. The ACT scores for the subjects were obtained at the end of the academic year along with the composite grade point average.

The statistical analysis consisted of computing simple correlation coefficients for all variables, multiple correlation coefficients using grade point average as the dependent variable and various combinations of LC and ACT as independent variables. An alpha level of .05 was set as the criterion for significance for all correlation coefficients.

Findings

Statistical analyses reveal that Locus of Control (LC) was not significantly related to GPA for males

($r = .03$) or females ($r = -.05$). The ACT composite score ($r = .39$ for males and $r = .55$ for females) was significantly related to GPA beyond the .01 level. All areas of the ACT (Mathematics, English, Social Science and Natural Science) were significantly related to GPA beyond the .01 level although as with the composite ACT scores the correlations were higher for females than males (See table I).

When multiple regression coefficients were computed using ACT composite and area scores as predictors of GPA a multiple R of .41 ($p < .01$) for males and multiple R of .57 ($p < .01$) for females was reached. When LC was added as an independent variable the multiple R increase was negligible. Little increase was also noted when males and females were grouped together and LC and sex were included as predictor variables along with the ACT composite and area scores (see table II). The analysis clearly indicates that the ACT scores are much more superior predictors of GPA for females than males and LC adds little of significance to the prediction model. The means of previous research samples were used as theoretical population means in order to run single sample t tests as a way to compare the subjects of this study with those cited in the earlier literature. The total group mean of 10.1 was significantly higher than any sample mean cited with the exception of a

group of black college students who were willing to attend a civil rights rally. This included black samples from correctional institutions and Florida State University psychology classes.

Discussion

The predictability of GPA by ACT scores was very high. While ACT is a known predictor, the correlation for females of .57 is remarkable. The overall predictability of .50 for males and females is still very high.

Perhaps the strength of ACT in predicting GPA was such that no other predictor could compete in this setting.

It is worth noting that the samples of blacks quoted above had N's of 60 and 116 respectively while this sample had 322. Previous research has not tested large samples of black students. The lack of thorough testing may support the often heard statement by blacks that psychological tests very often are biased or do not pertain to blacks. While it is probable that most of this sample attended schools that were from 80-100% black, some would have attended schools that were close to 50-50 black-white. This would tend to decrease means, yet this mean is higher than most in the literature. Also many high scorers (externals) were very good students with a "B" or better GPA.

A major implication of the Coleman report and related literature was that LC plays a causative role in achievement. This was not true for this study.

The data in this study, collected twenty years later than data cited earlier and from a larger group ($N = 322$), indicate that the relationship between LC and GPA is practically nil. In fact, the total group mean is higher than almost any previously reported and the relationship with achievement approaches zero. These data indicate that LC is a poor predictor of achievement and black students appear to be more externally oriented than those studied in published works going back to 1963.

The LC scores obtained in this sample were more different than expected which caused the researchers concern as to their reliability. The obtained reliability of .57 is close to that obtained with the earlier groups and tends to lend confidence in the data. Further, the LC response data fits an almost perfect normal curve as skewness and kurtosis approached zero.

A normal distribution suggests that previous research with the LC construct should be valid but that means could be quite different. Further research exploring various relationships of LC with this population appears important educationally. LC change scores would be especially important to educational planners. Pinkard & Gross (1984) demonstrated significant LC change during studies in a one semester practicum course. Also changes across time, i.e., between the freshman and sophomore years, would allow LC orientation time to manifest itself.

A logical extension of this research would be to include black college students on predominantly white campuses who attended integrated elementary and secondary schools in the South.

TABLE I

INTERCORRELATIONS AMONG LOCUS OF CONTROL (LC), GRADE POINT AVERAGE (GPA)
AND ACT SCORES, COMPOSITE AND AREAS

	1	2	3	4	5	6	7
1. LC	---	-.05	-.08	-.13	-.02	.03	-.08
2. GPA	.03	----	.48	.43	.50	.42	.55
3. Eng	.07	.31	----	.51	.57	.46	.75
4. Math	-.07	.33	.43	----	.60	.53	.85
5. SS	.03	.32	.50	.40	----	.60	.85
6. NS	-.13	.22	.43	.43	.59	----	.77
7. CS	.00	.39	.68	.71	.80	.78	----

Note 1: Top/right of matrix is for females, N = 180 and lower/left is males, N = 142

Note 2: All intercorrelations are significant beyond the .01 level except those involving LC of which none are significant.

TABLE II
COMPARATIVE ANALYSIS OF R, R^2 and R^2 CHANGE OF COMBINATION OF ACT
COMPOSITE AND AREA SCORES, LOCUS OF CONTROL (LC) AND SEX AS PRE-
DICTORS OF GPA FOR BLACK COLLEGE FRESHMEN (N = 322)

GROUP	N	Variables	R	R^2	R^2 Change
Males	142	ACT composite and area scores	.41484	.17209	
		ACT composite, area scores and LC	.41498	.17221	.00012
Females	180	ACT composite and area scores	.56000	.32376	
		ACT composite, area scores and LC	.56917	.32395	.00019
TOTAL	322	ACT composite and area scores	.49847	.24847	
		ACT composite, area scores and LC	.49856	.24856	.00019
		ACT composite, area scores, LC and sex	.50381	.25382	.00526

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